

### Statement of Considerations

REQUEST BY SIEMENS WESTINGHOUSE POWER CORPORATION FOR  
AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN RIGHTS IN  
SUBJECT INVENTIONS MADE IN THE COURSE OF OR UNDER  
DEPARTMENT OF ENERGY CONTRACT NO. DE-AC26-98FT40355; DOE  
WAIVER DOCKET W(A)-98-009 [CH-0967]

Siemens Westinghouse Power Corporation (hereinafter referred to as "SWPC"), has made a timely request for an advance waiver to worldwide rights in Subject Inventions made in the course of or under Department of Energy (DOE) Contract No. DE-AC26-98FT40355. The scope of the work calls for SWPC to perform a conceptual design and feasibility study of a High Efficiency Fossil-Fueled Power Plant (HEFPP) that incorporates a pressurized tubular solid oxide fuel cell (PSOFC) coupled with conventional gas turbine technology in a completely dry (i.e., no boiler or steam bottoming power cycle) hybrid power cycle. This system is expected to exhibit electrical generating efficiency approaching 72% using natural gas fuel. The work is sponsored by the Office of Fossil Energy.

The dollar amount of the contract is \$202,455, with SWPC cost sharing \$40,491 or 20% of the contract. The performance period was May 29, 1998 through March 31, 2000. At least one invention has been reported to DOE patent counsel under this contract. SWPC has filed a patent application on this invention.

As discussed in the response to question 4, SWPC, formerly the Westinghouse Electric Corporation, began research and development of solid oxide fuel cells (SOFCs) in 1958. SWPC has invested a great deal of resources, and has developed considerable expertise (see the list of technical papers and presentations in Attachment A to the original waiver petition) and a strong patent position in the SOFC area (see the list of Westinghouse patents in Attachment B to the original waiver petition and the list of Siemens AG patents in Attachment E to the updated waiver petition dated May 13, 1999). SWPC has developed extensive manufacturing and operating data bases from single cell and generator tests, including: 69,000 hours (7.6 years) of continuous single cell testing of two SOFCs, and over 5,000 hours at elevated pressure; over 10,000 hours of power generation in a short stack test; testing of eleven fuel cell generators in integrated automatically controlled packaged systems; over 7000 hours and over 6000 hours of operation on two separate 20 kWe generators; and over 5500 hours and 13,000 hours of operation on two 25 kWe generators. The research and development efforts have resulted in significant improvements in the technology along with significant reductions in SOFC cost due to increase in cell size and development of advanced cell fabrication techniques. In addition, SWPC constructed in Pittsburgh, Pennsylvania a SOFC Pilot Manufacturing Facility that can produce 20,000 cells per year or 4 MWe.

As indicated in its response to question 5 of the attached waiver petition, SWPC is a major national and international supplier of power generation equipment, and is a generally recognized leader in the development of SOFCs. SWPC has the manufacturing, sales, distribution and service skills and organizations needed for commercialization of a full line of fuel cell products and related equipment. Therefore, SWPC's experience and expertise will contribute substantially to commercialization of the inventions made under the contract. However, since SOFCs are still in a developmental stage there is no established commercial position by any developer or manufacturer. SWPC expects that SOFCs will initially enter the market in the distributed generation (i.e., other than central power stations) market.

The U.S. government has provided funding for the Westinghouse/SWPC SOFC development effort for most of the past forty years, beginning with a contract awarded in 1962 by the Office of Coal Research, U.S. Department of the Interior. DOE funding of the technology began in 1976 and continues to the present time. As the predecessor to SWPC, Westinghouse was granted patent waivers under earlier DOE awards (DE-AC02-80ET17089 based on a 22% cost share, DE-FC21-91MC28055 based on a 48% cost share, and DE-FC26-97FT34139 based on 58.2% cost share). Thus, grant of the present waiver request is consistent with prior action by DOE in granting waivers of domestic and foreign patent rights to Westinghouse/SWPC and with the fact that SWPC is capable of manufacturing SOFC's in the United States and marketing the technology in domestic and foreign markets.

The contract was performed with the standard DOE "Patent Rights-Acquisition by the Government" clause. If the requested waiver is approved, the "Patent Rights-Acquisition by the Government" clause will be replaced by the "Patent Rights-Waiver" clause as a no-cost modification to the contract. SWPC has approved the "Patent Rights-Waiver" terms and conditions, including march-in rights, the granting of licenses to background patents necessary for practicing subject inventions, retention by the government of a license, preference for U.S. industry, and U.S. Competitiveness and Adequate Recognition provisions. The U.S. Competitiveness provision requires SWPC to make that condition of the waiver binding on any assignee or licensee or any entity otherwise acquiring rights to any waived invention. The Adequate Recognition provision requires SWPC to obtain DOE approval of any transfer or other alienation of any intellectual property first specifically developed by SWPC in the performance of the work funded under the DOE HEFPP Program -- including technical data and subject inventions (hereafter termed "Intellectual Property") -- to any foreign company or American subsidiary of a foreign company. Such approval is contingent on agreement by the company to whom such rights are transferred or otherwise alienated to substantially manufacture any products embodying any such Intellectual Property or produced through the use of any such Intellectual Property in the United States. In the event the company acquiring such rights does not meet the substantial United States manufacture requirement, the Adequate Recognition provision provides for repayment of the funds contributed by DOE to the Contractor's HEFPP program, and licensing or return to DOE of foreground Intellectual Property and licensing of background Intellectual Property.

In addition, SWPC has agreed to modification of the data clause of the subject contract (48 C.F.R. 52.227-14) by adding paragraph (k), Alternative VI (48 C.F.R. 952.227-14), concerning contractor licensing of data.

Based on its response to questions 8 and 9 of the waiver petition, it is likely that granting of the waiver will help maintain its technology leadership, thus providing the driving force for commercialization of the technology at the earliest possible time. Also, granting of the waiver should have little effect on competition since other companies are developing planar SOFC technology and other types of fuel cell technology that will compete with the SWPC technology in the marketplace. Therefore there should not be undue market concentration of SWPC's products.

Grant of the requested waiver should serve as encouragement to other DOE contractors that significant cost sharing will be recognized as an acceptable consideration for granting greater rights in Subject Inventions.

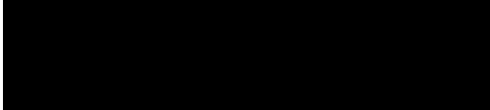
In view of the acceptable level of cost sharing by Siemens Westinghouse Power Corporation and the objectives and considerations set forth in 10 C.F.R. 784, all of which have been considered, it is recommended that the requested waiver, as set forth above, be granted.



Lisa A. Jarr  
Patent Attorney

Based on the foregoing Statement of Considerations and the representations in the attached Waiver Petition, it is determined that the interest of the United States and the general public will best be served by a waiver of U.S. and foreign patent rights, and therefore, the waiver is granted. This waiver shall not apply to a modification or extension of the cost-shared contract where, through such a modification or extension, the purpose, scope or cost of the contract has been substantially altered.

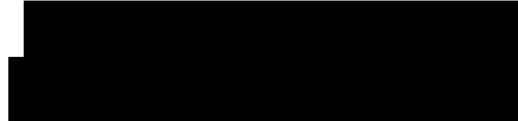
CONCURRENCE: 



George Rudins  
Deputy Assistant Secretary for Coal and  
Power Systems  
Office of Fossil Energy

Date: 6/7/02

APPROVAL:



Paul A. Gottlieb  
Assistant General Counsel for  
Technology Transfer and Intellectual  
Property

Date: 6-14-02

Counsel prior to any such release or publication. In appropriate circumstances, and after consultation with the Contractor, Patent Counsel may waive the right of prepublication review.

*(s) Forfeiture of rights in unreported subject inventions.*

(1) The Contractor shall forfeit and assign to the Government, at the request of the Secretary of Energy or designee, all rights in any subject invention which the Contractor fails to report to Patent Counsel within 6 months after the time the Contractor:

- (i) Files or causes to be filed a United States or foreign patent application thereon;
- or
- (ii) Submits the final report required by paragraph (e)(2)(ii) of this clause, whichever is later.

(2) However, the Contractor shall not forfeit rights in a subject invention if, within the time specified in paragraph (m)(1) of this clause, the Contractor:

- (i) Prepares a written decision based upon a review of the record that the invention was neither conceived nor first actually reduced to practice in the course of or under the contract and delivers the decision to Patent Counsel, with a copy to the Contracting Officer;
- or
- (ii) Contending that the subject invention is not a subject invention, the Contractor nevertheless discloses the subject invention and all facts pertinent to this contention to the Patent Counsel, with a copy to the Contracting Officer, or
- (iii) Establishes that the failure to disclose did not result from the Contractor's fault or negligence.

(3) Pending written assignment of the patent application and patents on a subject invention determined by the Contracting Officer to be forfeited (such determination to be a Final Decision under the Disputes clause of this contract), the Contractor shall be deemed to hold the invention and the patent applications and patents pertaining thereto in trust for the Government. The forfeiture provision of this paragraph shall be in addition to and shall not supersede any other rights and remedies which the Government may have with respect to subject inventions.

*(t) U.S. Competitiveness.*

The Contractor agrees that any products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States, unless the Contractor can show to the satisfaction of DOE that it is not commercially feasible to do so. In the event DOE agrees to foreign manufacture, there will be a requirement that the Government's support of the technology be recognized in some appropriate manner, e.g., recoupment of the Government's investment, etc. The Contractor further agrees to make the above condition binding on any assignee or licensee or any entity otherwise acquiring rights to any waived invention, including subsequent assignees or licensees. Should the Contractor or other such entity receiving rights in any waived invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license, or other transfer of rights in the waived invention is suspended until approved in writing by DOE.